

WPI / Thomson

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 IN - KODAMA K; OTA H; TOYAMA A
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 PA - (JAPG) NIPPON ZEON KK
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 XIC - C08F-002/00; C08F-236/00; C08F-236/12; C08J-005/02
 AB - NOVELTY :

Dip forming latex consists of a copolymer latex obtained by copolymerizing 100 wt.pts of monomer mixture containing preset amount of monomers such as conjugated diene monomer, ethylenically unsaturated nitrile monomer and ethylenically unsaturated acid monomer.

- DETAILED DESCRIPTION :

Dip forming latex consists of a copolymer latex obtained by copolymerizing 100 wt.pts of monomer mixture. The monomer mixture consists of 65-84.5 wt.pts of conjugated diene monomer, 15-25 wt.pts of ethylenically unsaturated nitrile monomer, 0.5-10 wt.pts of ethylenically unsaturated acid monomer, 0-19.5 wt.pts of other ethylenically unsaturated copolymerizable monomer. The copolymer in the latex, has difference of primary glass transition temperature (Tg1) and secondary glass transition temperature (Tg2), of 20[deg]C or less.

INDEPENDENT CLAIMS are included for the following:

- (1) manufacture of dip forming latex, which involves adding 10-50 wt.% of ethylenically unsaturated nitrile monomer to polymerization reaction system, after polymerization initiation of the monomer mixture, and copolymerizing 100 wt.pts of the monomer mixture;
- (2) composition for dip formings, containing the dip forming latex; and
- (3) dip-formed article obtained by dip forming the composition.

- USE :

For dip formings and dip forming composition used to form dip-formed article (claimed).

- ADVANTAGE :

The dip-formed article obtained using the dip forming composition containing the latex, has excellent tensile strength.

- POLYMERS :

Preferred Composition: 10-50 wt.% of the ethylenically unsaturated nitrile monomer is added to the polymerization reaction system, during 5-95 wt.%, preferably 40-95 wt.% of polymerization conversion amount of the ethylenically unsaturated nitrile monomer in the system.

- EXAMPLE :

Acrylonitrile (in wt.pts) (18), methacrylic acid (3), 1,3-butadiene (75), t-dodecyl mercaptan regulator (0.3), deionized water (150), dodecylbenzene sodium sulfonate (2.5), potassium persulfate (0.2) and

sodium ethylenediaminetetra acetate (0.1), were prepared in a pressure-resistant polymerization reactor. The reactor was maintained at 35[deg]C, and polymerization reaction was started. The polymerization conversion ratio of acrylonitrile during polymerization was 67%. Subsequently, acrylonitrile (4) was added to the polymerization reactor when polymerization conversion ratio was 60%. Polymerization reaction was further continued at 35[deg]C until polymerization conversion ratio was 97%. Subsequently, diethylhydroxylamine (0.1) was added, and polymerization reaction was stopped, and a copolymer latex was obtained. The obtained copolymer latex, after distilling unreacted monomer, was adjusted to solid content concentration and pH, and a copolymer latex with solid content concentration of 40% and pH of 8.5 was obtained. The copolymer latex had primary glass transition temperature (Tg1) of -48.6[deg]C, secondary glass transition temperature (Tg2) of -31.8[deg]C, and difference in Tg1 and Tg2 of 16.8[deg]C. Subsequently, curing agent dispersion liquid (9.26) was mixed with copolymer latex (250), and a composition for dip forming, was obtained. The curing agent dispersion liquid was prepared by mixing sulfur (3), zinc oxide (0.1), dibutyl zinc carbamate (1.5), potassium hydroxide (0.03) and water (4.63). Subsequently, dip-formed article of removal glove shape was produced using the composition. The article had stress at 300% expansion, of 1.9 MPa, tensile strength of 22.3 MPa and breakage elongation of 580%.

ICAI- C08F2/00; C08F236/12; C08J5/02

ICCI- C08F2/00; C08F236/00; C08J5/02

INW - KODAMA K; OTA H; TOYAMA A

IW - LATEX DIP COPOLYMER SPECIFIC DIFFER PRIMARY SECONDARY GLASS TRANSITION TEMPERATURE OBTAIN COPOLYMERISE MONOMER MIXTURE CONJUGATE DIENE

IWW - LATEX DIP COPOLYMER SPECIFIC DIFFER PRIMARY SECONDARY GLASS TRANSITION TEMPERATURE OBTAIN COPOLYMERISE MONOMER MIXTURE CONJUGATE DIENE

NC - 1

NPN - 2

OPD - 2001-11-28

PAW - (JAPG) NIPPON ZEON KK

PD - 2003-06-10

TI - Latex for dip formings, has copolymer latex with specific difference in primary and secondary glass transition temperatures and obtained by copolymerizing monomer mixture with monomers such as conjugated diene

A01 - [001] 2004; G0828 G0817 D01 D12 D10 D51 D54 D56; R00806 G0828 G0817 D01 D02 D12 D10 D51 D54 D56 D58 D84 L29411; G0475 G0260 G0022 D01 D12 D10 D26 D51 D53 D58 D83 F12 395; G0271 G0260 G0022 D01 D12 D10 D26 D51 D53 F36 F35; R00460 G0306 G0271 G0260 G0022 D01 D12 D10 D26 D51 D53 D58 D60 D84 F36 F35 10151; G0022 D01 D51 D53; L9999 L2528 L2506; L9999 L2551 L2506; S9999 S1025 S1014; H0033 H0011; L9999 L2391; L9999 L2073; M9999 M2073; S9999 S1434; P0328; P0088

- [002] 2004; ND04; ND01; N9999 N6473 N6440; Q9999 Q7078 Q7056; B9999 B5618 B5572; B9999 B4171 B4091 B3838 B3747; B9999 B3907 B3838 B3747; B9999 B3838 B3747; N9999 N6826 N6655; N9999 N6735 N6655

- [003] 2004; D01 D50 D68 D89 F77 Zn 2B Tr; R01725 D00 D09 S- 6A 363; R01520 D00 F20 Zn 2B Tr O- 6A 866; A999 A157; A999 A771